CLAIMS

1. A method of producing a part made of a silver-based alloy, characterized in that it consists in taking an initial alloy containing silver and at least one metal soluble in silver at contents of between 0.04 and 4 at% and capable of forming a stable oxide at high temperature, and then carrying out in succession the following operations:

- oxygenation of the initial alloy so as to dissolve oxygen into the silver that it contains;
- partial oxidation of the soluble metal so as to form precipitate particles that prevent the alloy grains from coarsening; and
- complete oxidation, on at least an outer layer, of the soluble metal into an oxide stable at high temperature.

2. The method as claimed in claim 1, characterized in that the oxygenation is carried out by exposing the initial alloy to a stream of oxygen.

3. The method as claimed in claim 2, characterized in that the oxygenation takes place at a temperature of about 300°C.

4. The method as claimed in one of claims 1 to 3, characterized in that the initial alloy is a part having the desired final form and in that the complete oxidation takes place straight after the partial oxidation.

5. The method as claimed in one of claims 1 to 3, characterized in that the initial alloy is a part having an intermediate form, such as a wire, a tube or a strip, in that the partial oxidation is carried out by placing the oxygenated part for about one hour in a vacuum or in

an inert atmosphere, at a temperature of between 400 and 850°C, and in that, before its complete oxidation, the part is made into its final form.

6. The method as claimed in one of claims 1 to 3, characterized in that the initial alloy is in the form of powder, in that said powder is compacted before the oxygenation while maintaining an open porosity over its entire thickness, in that the part thus obtained is extruded hot, which causes it to undergo partial oxidation, and in that, before its complete oxidation, the part is made into its final form.

7. The method as claimed in one of claims 1 to 3, characterized in that the initial alloy is in powder form, in that said powder is compacted after the oxygenation, in that the part thus obtained is extruded hot, which causes it to undergo partial oxidation, and in that, before its complete oxidation, the part is made into its final form.

8. The method as claimed in one of claims 1 to 7, characterized in that the complete oxidation is carried out by exposing the part to an oxidizing atmosphere at a temperature of between 400 and 850°C.

9. A silver-based alloy, characterized in that in that it contains at least one metal which is soluble in silver and capable of forming a stable oxide at high temperature, and which, by internal oxidation, hardens it, while still providing a final grain size of less than 20 µm.

10. The alloy as claimed in claim 9, characterized in that said metal is selected from magnesium, aluminum, titanium, gallium, manganese and zinc, or a combination

of these metals.

11. The alloy as claimed in either of claims 9 and 10, characterized in that the content of said metal, alone or in combination, is between 0.04 and 4 at%.